

REMARKS

Claims 1-3, 5-11 and 14-17, and 19-22 are pending in the application.

Claims 1, 7, and 11 have been amended, and claims 4, 12-13, 18, and 23 have been cancelled. No new matter has been introduced by the amendment.

Claims 1 and 7 have been amended to correct the spelling of the word "liquefied."

REJECTION UNDER 35 U.S.C. §103(a)

Claims 1-3 and 5-11, 14-17, and 19-23 have been rejected over De in view of Buchwalter et al. and Hiyamizu et al. This rejection is overcome in view of the amendment of claim 11 together with the following remarks.

Claim 1 recites a process in which a work piece is temporarily attached to a porous work carrier by a liquefied adhesive that is drawn into the plurality of pores of the work carrier by applied vacuum pressure. A portion of the plurality of pores include pore passages that comprise at least 10% of the pore volume, and wherein the pore passages traverse the work carrier from a top side to a rear side of the work carrier. The adhesive is then hardened, while maintaining the vacuum pressure. Following processing of the workpiece, the workpiece is released from the work carrier by action of a solvent.

A work carrier arranged in accordance with the invention is recited in claim 10. Specifically, the pores are configured to accommodate a portion of the liquefied adhesive and have a workpiece in intimate contact therewith. Notably, the pores are also configured to accommodate the liquefied adhesive upon hardening of the adhesive to a solid. A portion of the plurality of pores include

pore passages that comprise at least 10% of the pore volume, and wherein the pore passages traverse the work carrier from a top side to a rear side of the work carrier.

Claim 11, as amended, recites a combination including a work carrier and a workpiece in which a porous material has a plurality of pores at least a portion of which are interconnected. A portion of the plurality of pores include pore passages that comprise at least 10% of the pore volume. The pore passages traverse the work carrier from a top side to a rear side of the work carrier. The workpiece comprises a semiconductor wafer attached to the work carrier by an adhesive. The diameter of the work carrier is equal to the diameter of the semiconductor wafer.

The porous material is configured such that, upon application of vacuum pressure to the work carrier, the plurality of pores accommodate a portion of the adhesive in a liquid state. These pores also accommodate the liquefied adhesive upon hardening of the adhesive to a solid. The plurality of pores are further configured to provide for flow of a solvent therethrough to dissolve the solid adhesive and release the semiconductor wafer.

As previously asserted by the applicants, a *prima facie* case of obviousness is not established by the combination of cited references at least because the cited references, when combined, do not disclose all of the features of the claimed process or structure, taken alone or in combination. The applicants assert that all words in their claims must be considered in judging patentability. See MPEP Section 2143.03. Further, impermissible hindsight

must be avoided and any conclusion must be reached from facts gleaned from the prior art. See MPEP Section 2142.

As previously asserted by the applicants, De does not suggest or disclose that the pores be configured to accommodate a liquefied solid upon application of vacuum pressure to the work carrier. De simply uses the adhesive (404) to adhere the water to the carrier, but without application of vacuum pressure. Accordingly, De does not suggest or disclose a method or structure in which a liquefied adhesive is used simultaneously with the application of vacuum pressure.

As previously asserted by the applicants, Buchwalter et al. do not suggest or disclose pores configured to accommodate a liquefied solid upon application of vacuum pressure to a work carrier. Instead, Buchwalter et al. disclose the use of heat, pressure, or exposure to solvent vapors to cause a photoresist to adhere to a transfer plate. Accordingly, Buchwalter et al. do not suggest or disclose a method or structure in which a liquefied adhesive is used simultaneously with the application of vacuum pressure.

As previously asserted by the applicants, Hiyamizu et al. do not suggest or disclose a work carrier accommodates the fastening of a workpiece to a porous work carrier by means of a solid that is applied in liquefied form. There is no teaching of a process or structure in which the workpiece is in intimate contact with the adhesive. Instead, Hiyamizu et al. disclose a porous plate that is fastened to a chuck by using a liquefied adhesive. Accordingly, Hiyamizu et al.

do not suggest or disclose a method or structure in which a liquefied adhesive is used simultaneously with the application of vacuum pressure.

In view of the failure of the cited references to disclose the claimed method and structure, a combination of these references do not create a *prima facie* case of obviousness. This is at least because, even when combined, the references do not teach or suggest a method or structure in which a liquefied adhesive is used simultaneously with the application of vacuum pressure to attach a workpiece to a work carrier.

Claims 2-3, 5-9, 14-17, and 19- 21 are allowable in view the remarks pertaining to claim 1 from which they depend.

Claim 22 is allowable in view the amendment and remarks pertaining to claim 10 from which it depends.

The applicants have made a novel and non-obvious contribution to the art of semiconductor fabrication technology and handling equipment. The claims at issue distinguish over the cited references and are in condition for allowance. Accordingly, such allowance is now earnestly requested.

Respectfully submitted,

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